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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ajith N. Nair

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EXAMINER

MENDOZA, JUNIOR O

ART UNIT

PAPER NUMBER

2423

NOTIFICATION DATE

DELIVERY MODE

05/14/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOmail@sciatl.com

Office Action Summary	Application No. 10/663,037	Applicant(s) NAIR ET AL.	
	Examiner JUNIOR O. MENDOZA	Art Unit 2423	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,7-9,12,13,15-19,21-25 and 41-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 7-9, 12, 13, 15-19, 21-25 and 41-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/10/2009 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1 and 23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. **Claim 18** is objected to because of the following informalities: claim 18 discloses "the first but rate" which should be changed to "the first bit rate".

4. **Claim 46** is objected to because of the following informalities: claim 18 discloses that "the transcode logic is further configured to transcode according to the first operating mode according to a second video specification different than the first video specification" which should be changed to " the transcode logic is further configured to

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transcode according to the first operating mode implemented according to a second video specification different than the first video specification". See claim 9 for consistency.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 5 and 43** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 43 recites the limitation "the first mode is in real time and the transcoding according to the second mode is in non-real time". There is insufficient antecedent basis for this limitation in the claim. Nonetheless, independent claim 1 and claim 42 disclose that "the first mode is in non-real time and the transcoding according to the second mode is in real time". For examination purposes and in order to keep consistency with independent claim 1 and claim 42, the examiner will interpret that the "first mode" is in non-real time and the "second mode" is in real time for claims 5 and 43.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1, 2, 5, 7, 12, 13, 15, 16, 19, 21, 23, 24, 41 – 44, 47 – 49, 50, 53 and 54** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel (Pub No US 2002/0071663) in view of Delpuch (Pub No US 2004/0055020). Hereinafter, referenced as O'Donnel and Delpuch, respectively.

Regarding **claim 1**, O'Donnel discloses a method comprising the steps of:
determining whether the video stream is to be transcoded according to a first operating mode or a second operating mode relative to producing the video stream, the determination based on availability of processing resources (Paragraphs [0018] [0019] and [0021] also exhibited on figures 2, 3 and 6; received video stream gets fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources),

wherein the first operating mode is implemented in non-real time (Paragraphs [0018] and [0019] and fig 4 and 6; high compression in non-real time when receiver is "offline")

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and the second operating mode is implemented in real-time (Paragraphs [0018] and [0019] and figure 2; fast compression in real-time);

and transcoding the video stream according to either the first operating mode or the second operating mode responsive to a determination regarding the sufficiency of processing resources (Paragraphs [0018] [0019] and [0021] figures 2, 3 and 6).

However, it is noted that O'Donnel fails to explicitly disclose encoding plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream; and storing the video stream in a storage device.

Nevertheless, in a similar field of endeavor Delpuch discloses real-time and/or non-real time transcoding system which may depend on the receiver's processing capabilities (Paragraphs [0023] [0024]),

encoding plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream (Paragraphs [0022] [0025] and figure 1; received video data is encoded by headend);

storing the video stream in a storage device (Paragraph [0012]; content is stored within the client).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of implementing a system which allows the recording of data at a user's receiver for later playback, where said recording allows an efficient tradeoff between image quality and storage needed.

Regarding **claim 2**, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses that the method is implemented by a television set-top terminal (Paragraph [0018]; CVA 2 may consist of a stand alone television set top box).

Regarding **claim 5**, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses that the transcoding according to the first mode is in non-real time and the transcoding according to the second mode is in real-time, the determination of which mode to execute further based on the availability of resources (Paragraphs [0018] [0019] and [0021] figures 2, 3 and 6; received video stream gets fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources).

However, it is noted that O'Donnel fails to explicitly disclose the steps of accessing pre-calculated resource estimates corresponding to compressing, decompressing, or a combination of both tasks pertaining to transcoding operations corresponding to the stored video stream, the pre-calculated resource estimates based on worst case conditions for one or more factors, the transcoding is determined with respect to the pre-calculated resources.

Nevertheless, in a similar field of endeavor Delpuch discloses the steps of accessing pre-calculated resource estimates corresponding to compressing, decompressing, or a combination of both tasks pertaining to transcoding operations

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corresponding to the stored video stream, the pre-calculated resource estimates based on worst case conditions for one or more factors (Paragraphs [0035] [0037] figure 6; determining the amount of storage available and the amount of storage required to transcode a content to its highest quality),

and the transcoding is determined with respect to the pre-calculated resources (Paragraphs [0035] [0037] figure 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of evaluating the resources needed in order to perform a transcoding operation based on the resources a receiver device has to offer at a given point.

Regarding **claim 7**, O'Donnel and Delpuch disclose the method of claim 5; however, it is noted that O'Donnel fails to explicitly disclose that the one or more factors includes one or more of video compression specification, picture size, picture rate, or time factor.

Nevertheless, in a similar field of endeavor Delpuch discloses that the one or more factors includes one or more of video compression specification, picture size, picture rate, or time factor (Paragraphs [0035] [0037] figure 6; determining the amount of storage available and the amount of storage required to transcode a content to its highest quality).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of evaluating the resources needed in order to perform a transcoding operation based on the resources a receiver device has to offer at a given point.

Regarding **claim 12**, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses that the processing resources comprise one or more of an instruction execution resource, bus bandwidth, memory capacity, storage capacity, and or access to storage capacity (Paragraphs [0018] [0019] and [0021]; set top box's storage capacity).

Regarding **claim 13**, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses that the transcoding comprises the steps of: retrieving the stored video stream (Paragraph [0019] figure 4; read compressed video stream 24); processing the retrieved video stream (Paragraph [0019] figure 4; process compressed video stream 26); and compressing the decompressed video stream (Paragraph [0019] figure 6; high compress video stream 30).

However, it is noted that O'Donnel fails to explicitly disclose that processing the video stream includes decompressing the video stream.

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Nevertheless, in a similar field of endeavor Delpuch discloses that processing the video stream includes decompressing the video stream (Paragraph [0039]; decompress and then recompress the stored data).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of including essential mechanisms and steps which allow data to be transcoded effectively.

Regarding **claim 15**, O'Donnel and Delpuch disclose the method of claim 13; moreover, O'Donnel discloses that the retrieving, processing, and compressing are time-staggered (Figures 4 and 6; flowing charts show that transcoding steps are spread over time).

However, it is noted that O'Donnel fails to explicitly disclose that processing the video stream includes decompressing the video stream.

Nevertheless, in a similar field of endeavor Delpuch discloses that processing the video stream includes decompressing the video stream (Paragraph [0039]; decompress and then recompress the stored data).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of including essential mechanisms and steps which allow data to be transcoded effectively.

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Regarding **claim 16**, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses that the transcoding according to the second operating mode requires fewer processing resources than the transcoding according to the first operating mode (Paragraphs [0018] [0019] and [0021] on figures 2, 3 and 6; offline compression requires less processing resources).

Regarding **claim 19**, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses the step of: monitoring consumption of the processing resources over an extended time period for different time intervals for respective operations that are currently executing and scheduled to be executed at a future time (Paragraph [0021]; monitoring on-line operation initiation either because of user input or automatic initiation).

Regarding **claim 21**, O'Donnel and Delpuch disclose the method of claim 19; moreover, O'Donnel discloses the step of monitoring consumption of the processing resources comprises monitoring user input (Paragraph [0021]; monitoring on-line operation initiation either because of user input or automatic initiation).

Regarding **claim 23**, O'Donnel discloses a set-top terminal (STT) (Paragraph [0018] figure 1) comprising:

determine logic configured to determine whether the video stream is to be transcoded according to a first operating mode or a second operating mode relative to producing the video stream, the determination based on availability of processing resources (Paragraphs [0018] [0019] and [0021] also exhibited on figures 2, 3 and 6; received video stream gets fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources);

and transcode logic configured to transcode the video stream according to either the first operating mode or the second operating mode responsive to a determination regarding the sufficiency of processing resources (Paragraphs [0018] [0019] and [0021] figures 2, 3 and 6).

However, it is noted that O'Donnel fails to explicitly disclose an encoder configured to compress plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream.

Nevertheless, in a similar field of endeavor Delpuch discloses real-time and/or non-real time transcoding system which may depend on the receiver's processing capabilities (Paragraphs [0023] [0024]),

an encoder configured to compress plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream (Paragraphs [0022] [0025] and figure 1; received video data is encoded by headend).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of implementing a system which allows the recording of data at a user's receiver for later playback, where said recording allows an efficient tradeoff between image quality and storage needed.

Regarding **claim 24**, O'Donnel and Delpuch disclose the STT of claim 23; moreover, O'Donnel discloses that the first operating mode corresponds to a higher compression rate than the second operating mode (Paragraphs [0019] [0020]).

Regarding **claim 41**, O'Donnel and Delpuch disclose the STT of claim 23; moreover, O'Donnel discloses that the STT is integrated in a subscriber television system (Paragraph [0018] figure 1).

Regarding **claim 42**, O'Donnel and Delpuch disclose the STT of claim 23; moreover, O'Donnel discloses that the first operating mode is implemented in non-real time (Paragraphs [0018] and [0019] and fig 4 and 6; high compression in non-real time when receiver is "offline");

and the second operating mode is implemented in real-time (Paragraphs [0018] and [0019] and figure 2; fast compression in real-time).

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Regarding **claims 43, 44, 47, 48, 49, 50, 53 and 54**, O'Donnel and Delpuch disclose all the limitations of claims 43, 44, 47, 48, 49, 50, 53 and 54; therefore, claims 43, 44, 47, 48, 49, 50, 53 and 54 are rejected for the same reasons stated in claims 5, 7, 12, 13, 15, 16, 19 and 21, respectively.

9. **Claims 8 and 45** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel in view of Delpuch further in view of Kaneko et al (Patent No US 6,671,454). Hereinafter, referenced as Kaneko.

Regarding **claim 8**, O'Donnel and Delpuch disclose the method of claim 7; moreover, O'Donnel discloses performing different operations in non-real time if sufficient off-line time is available (Paragraph [0019]).

However, it is noted that O'Donnel and Delpuch fail to explicitly disclose a time factor which provides a plurality of completion times for operations.

Nevertheless, in a similar field of endeavor Kaneko discloses a time factor which provides a plurality of completion times for operations (Col. 14 lines 59-67, col. 15 lines 1-29 and figure 16; transcoding operations are scheduled in consideration of free time periods where the transcoding completion period is chosen based on whether the process can be completed before the receiver becomes active again).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel and Delpuch by specifically providing

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the elements mentioned above, as taught by Kaneko, for the purpose of evaluating the resources needed in order to perform a transcoding operation based on the resources a receiver device has to offer at a given point, allowing transcoding to take place during idle times using the receiver's resources quite effectively.

Regarding **claim 45**, O'Donnel, Delpuch and Kaneko disclose all the limitations of claim 45; therefore, claim 45 is rejected for the same reasons stated in claim 8.

10. **Claims 9, 17, 18, 25, 46, 51 and 52** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel in view of Delpuch further in view of Masakura et al (Pub No2003/0001964). Hereinafter, referenced as Masakura.

Regarding **claim 9**, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses transcoding according to the first operating mode (Paragraphs [0018] and [0019] and figure 2; fast compression in real-time).

However, it is noted that O'Donnel and Delpuch fail to explicitly disclose that transcoding is implemented according to a second video specification different than the first video specification video.

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Nevertheless, in a similar field of endeavor Masakura discloses that transcoding is implemented according to a second video specification different than the first video specification video (Paragraph [0035]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnell and Delpuch by specifically providing the elements mentioned above, as taught by Masakura, for the purpose of converting video from one format to another, allowing more compression and in consequence administrating storage space more effectively.

Regarding **claim 17**, O'Donnell and Delpuch disclose the method of claim 1; moreover, O'Donnell discloses transcoding according to the second operating mode (Paragraphs [0018] and [0019] and figure 2; offline compression).

However, it is noted that O'Donnell and Delpuch fail to explicitly disclose that transcoding is according to the first video specification.

Nevertheless, in a similar field of endeavor Masakura discloses that transcoding is according to the first video specification (Paragraph [0035]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnell and Delpuch by specifically providing the elements mentioned above, as taught by Masakura, for the purpose of converting video from one format to another, allowing more compression and in consequence administrating storage space more effectively.

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Regarding **claim 18**, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses that the transcoding system lowers the bit-rate for stored material (Paragraph [0020]);

a first operating mode and a second operating mode (Paragraphs [0018] [0019] and [0021] also exhibited on figures 2, 3 and 6; received video stream gets fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources).

However, it is noted that O'Donnel and Delpuch fail to explicitly disclose a transcoding system with a first bit rate and a second bit rate different than the first bit rate.

Nevertheless, in a similar field of endeavor Masakura discloses a transcoding system with a first bit rate and a second bit rate different than the first bit rate (Paragraphs [0042] [0049]; changing encoding parameters such as the bit rate of video data).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Masakura, for the purpose of converting video from one format to another, allowing more compression and in consequence administrating storage space more effectively.

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Regarding **claim 25**, O'Donnel and Delpuch disclose the STT of claim 23; moreover, O'Donnel discloses a first operating mode and a second operating mode (Paragraphs [0018] [0019] and [0021] also exhibited on figures 2, 3 and 6; received video stream gets fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources).

However, it is noted that O'Donnel and Delpuch fail to explicitly disclose a transcoding system with a second mode corresponding to an MPEG-2 video compression specification and a first mode corresponds to an H.264 video compression specification.

Nevertheless, in a similar field of endeavor Masakura discloses a transcoding system with a second mode corresponding to an MPEG-2 video compression specification and a first mode corresponds to an H.264 video compression specification (Paragraphs [0035] [0042]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Masakura, for the purpose of converting video from one format to another, allowing more compression and in consequence administrating storage space more effectively.

Regarding **claims 46, 51 and 52**, O'Donnel, Delpuch and Masakura disclose all the limitations of claims 46, 51 and 52; therefore, claims 46, 51 and 52 are rejected for the same reasons stated in claims 9, 17 and 18, respectively.

11. **Claims 22 and 55** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel in view of Delpuch further in view of Kaars (Pub No2003/0066084). Hereinafter, referenced as Kaars.

Regarding **claim 22**, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses determination of a transcoding mode (Paragraphs [0018] [0019] and [0021] figures 2, 3).

However, it is noted that O'Donnel and Delpuch fail to explicitly disclose transcoding based on one or more characteristics of the video stream.

Nevertheless, in a similar field of endeavor Kaars discloses transcoding based on one or more characteristics of the video stream (Paragraphs [0005] [0025]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Kaars, for the purpose of allowing the receiver to be able to receive and support different types of signal inputs, regulating its operation based on said input signal.

Regarding **claim 55**, O'Donnel, Delpuch and Kaars disclose all the limitations of claim 55; therefore, claim 55 is rejected for the same reasons stated in claim 22.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUNIOR O. MENDOZA whose telephone number is (571)270-3573. The examiner can normally be reached on Monday - Friday 9am - 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Koenig can be reached on (571)272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Junior O Mendoza
Examiner
Art Unit 2423

/J. O. M./
Monday, May 05, 2009

/Andrew Y Koenig/
Supervisory Patent Examiner, Art Unit 2423